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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,019	12/31/2001	Xiaowei Weng	56.0622	7528

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EXAMINER

DOUGHERTY, JENNIFER R

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,019

Applicant(s)

WENG ET AL.

Examiner

Jennifer R. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on October 31, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartley et al. (US 5,449,039).

Hartley et al. teaches all the limitations claims 1, 10 and 11 including: providing a tool with two burst disk assemblies (figure 1; column 5, lines 42-62) and an annulus isolation mechanism (94), passing tool in and positioning for treatment (figure 1), and pumping treatment fluid (claim 2).

With respect to the dependent claims Hartley et al. also teaches: single fluid conduit (figure 1)-claim 5; and first disk has lower bursting pressure (column 6, lines 10-20)-claim 6.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al. (US 5,449,039) in view of Muddiman (US 4,809,729).

As discussed above, Hartley et al. includes all the limitations of claim 2 with the exception of disclosing the specific structure of the burst disk. Muddiman discloses a burst disk made of a membrane and perforated disks (claim 1, figures 1 and 3). Muddiman teaches that this device provides an advantage over other assemblies because it works in both directions and thus it will not matter if it is installed in the "wrong" direction (column 2). Thus at the time of the invention it would have been obvious to use the burst disk of Muddiman as the burst disk in the invention of Hartley et al. because the Muddiman device simplifies the construction of the well treatment tool.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al. (US 5,449,039) in view of Muddiman (US 4,809,729) and further in view of Nierode et al. (US 5,890,536).

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-Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al. (US 5,449,039) in view of Nierode et al. (US 5,890,536).

As discussed above, Hartley et al. (and Muddiman) include(s) all the limitations of claims 3, 4, 12, and 13 with the exception of disclosing a ball sealer to prevent flow through the disk assemblies. Nierode et al. teaches the use of ball sealers in fracturing operations (abstract). Nierode et al. further teaches that ball sealers are advantageous to use in fracturing operations because they are inexpensive (column 1). Thus at the time of the invention it would have been obvious to one having ordinary skill in the art to have used ball sealers when sealing the disk assemblies of Hartley et al. (and Muddiman) because they are inexpensive sealing devices, as taught by Nierode et al.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al. (US 5,449,039) in view of Soliman et al. (US 5,111,881).

-Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al. (US 5,449,039) in view of Nierode et al. (US 5,890,536) and further in view of Soliman et al. (US 5,111,881).

As discussed above, Hartley et al. (and Nierode et al.) include(s) all the limitations of claims 7-9 and 13 with the exception of disclosing cup packers, gel packing, sand plugs, and proppant plugs to isolate the annulus. Soliman et al. teaches the use of all of these devices in fracturing operations (column 7). As demonstrated by Soliman et al. all of these methods are well known in the art for sealing during fracturing. Thus at the time of the invention it would have been obvious to one having ordinary skill in the art to have used the claimed sealing methods when sealing during the fracturing process of Hartley

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et al. (and Nierode et al.) because they are well known in the art to be compatible with fracturing operations.

Response to Arguments

8. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Dougherty whose telephone number is (703) 308-6365. The examiner can normally be reached on Monday-Thursday from 7:30 AM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell, can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


jrd


DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

December 29, 2003